COURSE SYLLABUS

COURSE NUMBER AND TITLE:

MATH 1324-201, *Business Mathematics I*

INSTRUCTOR:

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SEMESTER:

Spring 2012

LAST DAY TO DROP/WITHDRAW:

Friday, April 13, 2012. It is the responsibility of the STUDENT to drop the course before the final date for withdrawal from a course. Faculty members, in fact, may not drop a student from a course.

COURSE DESCRIPTION:

Systems of linear equations and matrices; linear programming; mathematics of finance; limits, continuity, derivatives. Prerequisite: One or more of an ACT Mathematics score of 25 or above, an SAT Mathematics score of 600 or above, a COMPASS score of College Algebra 35 or Algebra 81 or above, or MATH 1314.

STUDENT LEARNING OUTCOMES:

Upon successful completion of this course, the student will be able to:

1. set up and solve problems involving simple and compound interest, as well as future and present value of an annuity;
2. solve systems of linear equations using the Gauss-Jordan elimination method;
3. set up and solve problems in linear programming; that is, use graphical methods, as well as the simplex method (including the dual method) to maximize linear objective functions. Students will also be able to solve linear optimization problems with mixed constrains;
4. apply basic concepts from Calculus, such as limit, continuity and the physical and geometrical interpretation of Derivatives to solve problems in Business and Economics;
5. set up and solve problems that use derivative techniques such as the product, quotient and chain rule; and
6. prepare and submit a final paper using phrases commonly found in mathematical literature.

CORE-CURRICULUM LEARNING OUTCOMES:

1. Critical Thinking: includes creative thinking, innovation, inquiry and analysis, evaluation, and synthesis of information. (SLOs: 1, 2, 3, 4, & 5)

2. Communication Skills: Students will demonstrate their ability to communicate effectively by using *written* communication. (SLOs: 1, 3, 4, & 6)
3. Empirical and Quantitative Skills: includes the manipulation and analysis of numerical data or observable facts resulting in informed conclusions. (SLOs: 1, 3, 4, & 6)

TEXTBOOK:

College Mathematics for Business, Economics, Life Sciences, and Social Sciences, 12th Edition, Raymond A. Barnett, Michael R. Ziegler, and Karl E. Byleen, Prentice Hall: Pearson Education, 2010 (ISBN: 0-321-64545-6)

SUPPLEMENTARY TEXT:

Business Mathematics, 12th Edition, Gary Clendenen, Stanley A. Salzman, and Charles D. Miller, Prentice Hall: Pearson Education, 2012 (ISBN 978-13-510978-6)

INSTRUCTIONAL ACTIVITIES AND METHODS:

The semester grades will be based on three semester exams (each 100 points), a final exam (200 points), a final paper (75 points), and homework assignments (75 points). Three semester exams will be given on Feb. 14, Mar. 22, and Apr. 24, 2012. The final exam (worth two semester exams) is comprehensive and will be given on Tuesday, May 8, 2012 from 8:00 am to 11:00 am. Review problems are available for each exam. Students are required to solve them in order to prepare for the exams. The following grading scale will be used: A: 100% - 90%, B: 89% - 80%, C: 79% - 70%, D: 69% - 60%, F: 59% - 0%.

UNITS OF INSTRUCTION (Tentative Class Schedule):

The topics of instructions and materials, reviews, and exams, and the tentative dates that they will be conducted are listed below.

Date	Topic	Chapter	Coverage	Further Reading
Jan 17	Introduction, Overview, and Simple Interest	3	§3.1	
Jan 19	Compound & Continuous Compound Interest	3	§3.2	
Jan 24	Future Value of an Annuity	3	§3.3	
Jan 26	Present Value of an Annuity	3	§3.4	
Jan 31	Systems of Linear Equations Continued	4	§4.2	§4.1
Feb 2	Gauss-Jordan Elimination	4	§4.3	
Feb 7	Matrices: Basic Operations	4	§4.4	
Feb 9	Inverse of a Square Matrix	4	§4.5	
Feb 14	Exam 1			
Feb 16	Matrix and Systems of Linear Equations	4	§4.6	§4.7
Feb 21	Graphing Linear Inequalities	5	§5.1	
Feb 23	Systems of Linear Inequalities	5	§5.2	
Feb 28	Linear Programming: A Geometric Approach	5	§5.3	
Mar 1	Linear Programming: The Simplex Method	6	§6.1	
Mar 6	Simplex Method: Maximization	6	§6.2	
Mar 8	Dual Problem: Minimization	6	§6.3	
Mar 12-17	Spring Break; No Classes; University Open			
Mar 20	Big M Method	6	§6.4	
Mar 22	Exam II			

Mar 27	Introduction to Limits	10	§10.1	
Mar 29	Infinite Limits and Limits at Infinity	10	§10.2	
Apr 3	Continuity	10	§10.3	
Apr 5	Derivatives	10	§10.4	
Apr 10	Basic Differentiation Properties	10	§10.5	
Apr 12	Differentials	10	§10.6	
Apr 17	Marginal Analysis in Business & Economics	10	§10.7	
Apr 19	Derivatives of Products/Quotients & Chain Rule	11	§11.2, §11.3, §11.4	§11.1
Apr 24	Exam III			
Apr 26	Review for Final Exam			
May 1	Review for Final Exam & Last Class Day			
May 8	Final Comprehensive Exam: Tuesday, May 8, 2012 from 8:00 am to 11:00 am			

A graphing calculator is required; both for tests and for daily classroom participation (the models recommended are TI-83, TI-84 or TI-85). Review questions for final exam: ‡The number following the "/" sign refers to the relevant page number(s). Ex. 42/131‡, Ex. 35/143, Ex. 8/151, Ex. 6/161, Ex. 15/166, Ex. 32/179, Ex. 45/191, Ex. 11/201, Ex. 40/202, Ex. 43/214, Ex. 18/227, Ex. 22/235, Ex. 14/243, Ex. 34/257, Ex. 10/263, Ex. 10/273, Ex. 12/278, Ex. 8/285, Ex. 13/299, Ex. 7/312, Ex. 2/327, Ex. 57/487, Ex. 1-8/498, Ex. 23/509, Ex. 7/524, Ex. 27/533, Ex. 18/540, Ex. 25/549, Ex. 17/563, Ex. 22/572, Ex. 2/579, Ex. 41/589

COURSE POLICIES AND CLASSROOM BEHAVIOR:

Homework will be assigned, and in most cases the answer key will be provided. The projects will be assigned individually or in small groups and may require the use of software packages available; the results will be discussed in the class. Each student is responsible for all material covered in class and for all of the assignments. Regular attendance is expected of all students. No make-up exams will be given. A student may not use an electronic device during the class time without the permission of the instructor. Use of cell or smartphones during class time is prohibited. Classroom Behavior in The College of Arts and Sciences encourages classroom discussion and academic debate as an essential intellectual activity. It is essential that students learn to express and defend their beliefs, but it is also essential that they learn to listen and respond respectfully to others whose beliefs they may not share. The College will always tolerate diverse, unorthodox, and unpopular points of view, but it will not tolerate condescending or insulting remarks. When students verbally abuse or ridicule and intimidate others whose views they do not agree with, they subvert the free exchange of ideas that should characterize a university classroom. If their actions are deemed by the professor to be disruptive, they will be subject to appropriate disciplinary action, which may include being involuntarily withdrawn from the class.

PLAGIARISM AND CHEATING:

Plagiarism is the presentation of someone else's work as your own. **1)** When you borrow someone else's facts, ideas, or opinions and put them entirely in your own words, you must acknowledge that these thoughts are not your own by immediately citing the source in your paper. Failure to do this is plagiarism. **2)** When you also borrow someone else's words (short phrases, clauses, or sentences), you must enclose the copied words in quotation marks as well as citing the source. Failure to do this is plagiarism. **3)** When you present someone else's paper or exam (stolen, borrowed, or bought) as your own, you have committed a clearly

intentional form of intellectual theft and have put your academic future in jeopardy. This is the worst form of plagiarism.

Here is another explanation from the 2010, sixth edition of the *Manual of The American Psychological Association* (APA):
Plagiarism: Researchers do not claim the words and ideas of another as their own; they give credit where credit is due. Quotations marks should be used to indicate the exact words of another. *Each* time you paraphrase another author (i.e., summarize a passage or rearrange the order of a sentence and change some of the words), you need to credit the source in the text.

The key element of this principle is that authors do not present the work of another as if it were their own words. This can extend to ideas as well as written words. If authors model a study after one done by someone else, the originating author should be given credit. If the rationale for a study was suggested in the Discussion section of someone else's article, the person should be given credit. Given the free exchange of ideas, which is very important for the health of intellectual discourse, authors may not know where an idea for a study originated. If authors do know, however, they should acknowledge the source; this includes personal communications (pp. 15-16).

Consult the Writing Center or a recommended guide to documentation and research such as the *Manual of the APA* or the *MLA Handbook for Writers of Research Papers* for guidance on proper documentation. If you still have doubts concerning proper documentation, seek advice from your instructor prior to submitting a final draft.

Use of Work in Two or More Courses: You may not submit work completed in one course for a grade in a second course unless you receive explicit permission to do so by the instructor of the second course.

Penalties for Plagiarism: Should a faculty member discover that a student has committed plagiarism; the student should receive a grade of 'F' in that course and the matter will be referred to the Honor Council for possible disciplinary action. The faculty member, however, may elect to give freshmen and sophomore students a “zero” for the assignment and to allow them to revise the assignment up to a grade of “F” (50%) if they believe that the student plagiarized out of ignorance or carelessness and not out of an attempt to deceive in order to earn an unmerited grade. This option is not available to juniors, seniors, or graduate students, who cannot reasonably claim ignorance of documentation rules as an excuse.
Caution: Be very careful what you upload to Turnitin or send to your professor for evaluation. Whatever you upload for evaluation will be considered your final, approved draft. If it is plagiarized, you will be held responsible. The excuse that “it was only a draft” will not be accepted.
Caution: Also, do not share your electronic files with others. If you do, you are responsible for the possible consequences. If another student takes your file of a paper and changes the name to his or her name and submits it and you also submit the paper, we will hold both of you responsible for plagiarism. It is impossible for us to know with certainty who wrote the paper

and who stole it. And, of course, we cannot know if there was collusion between you and the other student in the matter.

Penalties for Cheating: Should a faculty member discover a student cheating on an exam or quiz or other class project, the student should receive a "zero" for the assignment and not be allowed to make the assignment up. The incident must be reported to the chair of the department and to the Honor Council. If the cheating is extensive, however, or if the assignment constitutes a major grade for the course (e.g., a final exam), or if the student has cheated in the past, the student should receive an "F" in the course, and the matter should be referred to the Honor Council. Under no circumstances should a student who deserves an "F" in the course be allowed to withdraw from the course with a "W."

Student Right of Appeal: Faculty will notify students immediately via the student's TAMIU e-mail account that they have submitted plagiarized work. Students have the right to appeal a faculty member's charge of academic dishonesty by notifying the TAMIU Honor Council of their intent to appeal as long as the notification of appeal comes within 5 business days of the faculty member's e-mail message to the student. *The Student Handbook* provides details.

UCONNECT, TAMIU E-MAIL, AND DUSTY ALERT:

Personal Announcements sent to students through TAMIU's UConnect Portal and TAMIU E-mail are the official means of communicating course and university business with students and faculty – not the U.S. Mail and no other e-mail addresses. Students and faculty must check UConnect and their TAMIU e-mail accounts regularly, if not daily. Not having seen an important TAMIU e-mail or UConnect message from a faculty member, chair, or dean is not accepted as an excuse for failure to take important action. Students, faculty, and staff are encouraged to sign-up for Dusty Alert (see www.tamiu.edu). Dusty Alert is an instant cell phone text-messaging system allowing the university to communicate immediately with you if there is an on-campus emergency, something of immediate danger to you, or a campus closing.

COPYRIGHT RESTRICTIONS:

The Copyright Act of 1976 grants to copyright owners the exclusive right to reproduce their works and distribute copies of their work. Works that receive copyright protection include published works such as a textbook. Copying a textbook without permission from the owner of the copyright may constitute copyright infringement. Civil and criminal penalties may be assessed for copyright infringement. Civil penalties include damages up to $100,000; criminal penalties include a fine up to $250,000 and imprisonment.

STUDENTS WITH DISABILITIES:

Texas A&M International University seeks to provide reasonable accommodations for all qualified persons with disabilities. This University will adhere to all applicable federal, state, and local laws, regulations and guidelines with respect to providing reasonable accommodations as required to afford equal education opportunity. It is the student's responsibility to register with the Director of Student Counseling and to contact the faculty member in a timely fashion to arrange for suitable accommodations.

INCOMPLETES:

Students who are unable to complete a course should withdraw from the course before the final date for withdrawal and receive a "W." To qualify for an "incomplete" and thus have the opportunity to complete the course at a later date, a student must meet the following criteria:

1. The student must have completed 90% of the course work assigned before the final date for withdrawing from a course with a "W", and the student must be passing the course;
2. The student cannot complete the course because an accident, an illness, or a traumatic personal or family event occurred after the final date for withdrawal from a course;
3. The student must sign an "Incomplete Grade Contract" and secure signatures of approval from the professor and the college dean.
4. The student must agree to complete the missing course work before the end of the next long semester; failure to meet this deadline will cause the "I" to automatically be converted to a "F"; extensions to this deadline may be granted by the dean of the college.

This is the general policy regarding the circumstances under which an "incomplete" may be granted, but under exceptional circumstances, a student may receive an incomplete who does not meet all of the criteria above if the faculty member, department chair, and dean recommend it.

STUDENT RESPONSIBILITY FOR DROPPING A COURSE:

It is the responsibility of the STUDENT to drop the course before the final date for withdrawal from a course. Faculty members, in fact, may not drop a student from a course without getting the approval of their department chair and dean.

INDEPENDENT STUDY COURSE:

Independent Study (IS) courses are offered only under exceptional circumstances. Required courses intended to build academic skills may not be taken as IS (e.g., clinical supervision and internships). No student will take more than one IS course per semester. Moreover, IS courses are limited to seniors and graduate students. Summer IS course must continue through both summer sessions.

GRADE CHANGES & APPEALS:

Faculty are authorized to change final grades only when they have committed a computational error, and they must receive the approval of their department chairs and the dean to change the grade. As part of that approval, they must attach a detailed explanation of the reason for the mistake. Only in rare cases would another reason be entertained as legitimate for a grade change. A student who is unhappy with his or her grade on an assignment must discuss the situation with the faculty member teaching the course. If students believe that they have been graded unfairly, they have the right to appeal the grade using a grade appeal process in the Student Handbook and the Faculty Handbook.

FINAL EXAMINATION:

Final Examination must be comprehensive and must contain a written component. The written component should comprise at least 20% of the final exam grade. Exceptions to this policy must receive the approval of the department chair and the dean at the beginning of the semester.

WALK-IN TUTORING:

The University Learning Center (ULC) offers walk-in tutoring to students who are currently enrolled in mathematics courses. Visit BCH 205 (Cowart Hall) or call Phone: (956) 326-2723 for tutoring hours.

This syllabus is subject to change.
January 17, 2012